

Butterflies collected in Catalonia in June 1971

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This paper gives a short account of butterflies collected in Catalonia, Spain, during a fortnight from 6th to 20th June 1971. The main aim of this trip was to explore a low range of limestone mountains Sierra de Garraf located approximately between the city of Barcelona and the town of Sitges along the Mediterranean sea-coast, where Sagarra (1912) found *Pieris manni* Meyer and other interesting species. Unfortunately, this area was found to be full of cement-works and suffering from considerable pollution in general, a by-product of the recent industrialisation of Catalonia. Also the weather was rather unsettled in Spring 1971 and unusually cold during the whole month of May causing an unexpected delay in emergence of many species. Although the number of species actually met with is therefore somewhat limited, it may be of some interest to record the results of my collecting in Sierra de Garraf and other localities in Catalonia, from which we mostly have no recent records (Manley and Allacard, 1970). Nearly all further mentioned species are in my collection except Hesperids, that are in the collections of the Royal Scottish Museum in Edinburgh and were determined by E. C. Pelham-Clinton.

A list of localities:

Segur (Province of Tarragona). A village some 15 km south-west of Sitges on the costal road. Collected on 10th June on sandy soils covered with poor grass and numerous flowering Compositae near the sea-coast.

Cubellas (Province of Barcelona). A village some 12 km south-west of Sitges on the coastal road and railway. Collected mainly on rough ground in dried-up river-bed of Rio Foix and in a few suitable places along the above mentioned road on 15th June.

Sitges (Province of Barcelona). A town some 40 km south-west of Barcelona on the sea-coast and main railway from Barcelona to Valencia. Collected mainly on the hillsides of "Prubellas" on various types of ground: sandy soils, pine wood, slopes covered with various species of shrubs, etc., on 8th, 12th, 13th, 17th and 18th June.

Garraf (Province of Barcelona). A village at the foothills of Sierra de Garraf, some 10 km north-east of Sitges on the coastal road and railway to Barcelona. Collected on steep and hardly accessible slopes of limestone hills facing the sea on 9th June.

Martorell (Province of Barcelona). A town north-west of Barcelona at the confluence of rivers Noya and Llobregat. Collected mainly in meadows along the road to Esparraguera on 16th June.

Olesa de Montserrat (Province of Barcelona). A village on the narrow gauge railway line Barcelona-Manresa. Collected

among orchards near the river Llobregat on 16th June.
Aereo Montserrat (Province of Barcelona). A narrow gauge railway and cable car junction under the famous Monasterio Montserrat. Collected in the deep valley of the river Llobregat on 11th June.
Monistrol (Province of Barcelona). Another village on the river Llobregat and narrow gauge railway Barcelona-Manresa. Collected on grassy hillsides and pastures on 11th June.

A list of species:

Papilio machaon hispanicus Eller—Abundant: Segur, Sitges, Olesa.

Pieris brassicae L.—Found only near Sitges, 1♂ and 1♀ 12.vi.71 and another specimen near Cubellas. Rare at the time, perhaps just the beginning of the Summer brood.

Pieris rapae L.—Although nearly a hundred specimens were taken and studied in order to ascertain whether *P. mannii* Meyer still occurred in the area (Sagara, 1912) all specimens proved to be the former species. Very common: Segur, Sitges, Garraf, Aereo Montserrat, Olesa.

Pieris napi dubiosa Röber—Found only in a small spot near Garraf: 1♂ and 4♀ 9.vi.71.

Pontia daplidice L.—Only two specimens were taken: Cubellas, 1♀ 15.vi.71 and Olesa, 1♂ 16.vi.71.

Leptidea sinapis L.—Not recorded from Catalonia for some 60 years (Manley and Allacard, 1970). Sporadic in pine woods on the top of "Prubellas" near Sitges: 1♂ 8.vi.71, 1♀ 12.vi.71, 1♂ 17.vi.71.

Anthocharis belia euphenoides Stgr.—A single freshly emerged female found in Aereo Montserrat 11.vi.71.

Colias crocea Geofroy—Common almost everywhere, in some localities whitish females ff. *helice* Hb. and *helicina* Obth. numerous.—Sitges, Olesa, Martorell, Segur, Cubellas, Aereo Montserrat.

Gonepteryx cleopatra L.—Sporadically, but not rare on bushy hillsides, mostly freshly emerged specimens: Garraf, Sitges, Aereo Monserrat.

Gonepteryx rhamni L.—Only one male seen but not taken near Aereo Montserrat, 11.vi.71.

Vanessa atalanta L.—The only specimen seen near Sitges 18.vi.71.

Vanessa cardui L.—Becoming common near Sitges and Cubellas.

Melitaea didyma occidentalis Stgr.—Males abundant near Sitges, single specimens also taken near Cubellas and Aereo Montserrat. The only female taken in Monistrol 11.vi.71.

Melitaea phoebe occitanica Stgr.—Only two specimens found: Cubellas, 1♀ 15.vi.71 and Sitges, 1♂ 17.vi.71.

Melanargia lachesis Hb.—Several males of both *M. galathea* L. and *M. lachesis* Hb. available in my collection from Spain, France, Italy and Czechoslovakia have been dissected.

There appears to be a probably constant difference in the male genitalia (i.e. uncus) supporting on morphological grounds the opinion that *lachesis* Hb. is not conspecific with *galathea* L. Apart from the fact that both species are known to be sympatric in France (Bretherton, 1966) and Spain (Manley and Allacard, 1970) without interbreeding. The intermediate forms known to occur along the distributional frontier between *galathea* L. and *lachesis* Hb. (Higgins and Riley, 1970) seem to be only superficial and therefore of limited taxonomic value. The individual variability in markings is characteristic of the whole genus *Melanargia* Meigen (i.e. Wagener, 1961). However, further investigation will be required to establish the fact beyond any doubt. *M. lachesis* Hb. found abundant: Sitges, Aereo Montserrat, Monistrol, Olesa, Martorel.

Melanargia occitanica Esp.—Only two very worn specimens taken: Monistrol, 2♂ 11.vi.71.

Pararge megera L.—Abundant: Sitges, Cubellas, Segur.

Pararge aegeria L.—Only a few specimens found on open rock hillsides near Sitges.

Lasiommata maera L.—A single male taken near Garraf, 9.vi.71.

Coenonympha dorus Esp.—Abundant in restricted spots: Sitges.

Maniola jurtina hispulla Esp.—Common and widely distributed: Sitges, Garraf, Segur, Cubella, Monistrol, Olesa, Martorel, Aereo Montserrat.

Pyronia bathseba Fabr.—Common and later becoming worn in Sitges and Garraf, single specimens found elsewhere: Segur, Aereo Montserrat.

Pyronia cecilia Vallantin—Less common than *P. bathseba* Fabr. and probably not fully out yet, as only one female was taken among more numerous males: Sitges, Segur, Cubellas.

Nordmannia esculi Hb.—Uncommon at the top or Prubellas near Sitges and in Garraf.

Strimonidia spini Schiff.—Only a few specimens taken: Sitges.

Lycaena phlaeas L.—Only two males found, possibly just the very beginning of second brood: Cubellas, Aereo Montserrat.

Lampides boeticus L.—Garraf, 1♂ 9.vi.71.

Syntarucus pirithous L.—Only Sitges: 1♂ 8.vi.71 and 1♂ and 1♀ 12.vi.71, a few other specimens seen.

Celastrina argiolus L.—Sitges, 1♀ 8.vi.71.

Aricia cramera Esch.—Cubellas, 1♀ 15.vi.71.

Polyommatus icarus Rott.—Common: Garraf, Sitges, Olesa.

Plebicula escheri Hb.—Aereo Montserrat, 1♂ 11.vi.71.

Lysandra hispana H.-Sch.—Rare near the coast and just emerging inland: Sitges, 1♂ 12.vi.71, Aereo Montserrat, 2♂

and 1♀ 11.vi.71, Monistrol, 1♂ 11.vi.71.

Carcharodus aleceae Esp.—Sitges, 1♂ 13.vi.71 and Cubellas, 1♀ 15.vi.71.

Carcharodus boeticus Rambur—Olesa, 1♂ 16.vi.71.

Thymelicus actaeon Rott.—Abundant: Sitges, Garraf, Segur, Olesa and Cubellas.

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All names quoted for localities throughout the text correspond with Mapa militar de Espana, 1:200.000, published by Servicio geografico del ejercito in 1968-69, sheets 9-4 and 9-5.

REFERENCES

- Bretherton, R. F. (1966). A distribution list of the butterflies (Rhopalocera) of western and southern Europe. *Trans. Soc. Brit. Ent.*, **17**: 1-94.
- Higgins, L. G. and Riley, N. D. (1970). A field guide to the butterflies of Britain and Europe. London.
- Manley, W. B. L. and Allacard, H. G. (1970). A field guide to the butterflies and burnets of Spain. London.
- Sagarra, I. de (1912). Contribucio a un catalech dels Lepidopters de Catalunya II (Fam. Pieridae). *Butll. Inst. catal. Hist. nat.*, **12**: 33-46.
- Wagener, S. (1961). Monographie der Ostasiatischen Formen der Gattung *Melanargia* Meigen. *Zoologica, Stuttgart, (Heft)*, **108**: 1-222.

Observations on British Butterflies in 1971

By Dr C. J. LUCKENS

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walls which were bulging with Cow Wheat. As this was the area for *Mellicta athalia* Rott. this wood seemed worth exploring, and sure enough we found a weak colony of this intensely local butterfly. The locality was not previously known to the Cornwall Naturalists Trust, but if *athalia* is to survive here, action must be taken speedily. In the very spot where the half dozen or so butterflies were flying a crop of young conifers were growing up, and the cow wheat, all but swamped was confined to a path circling the plantation.

We started to explore the valleys north of Bude on July 1st, our objective being to find *Maculinea arion* L. I might add however that we decided beforehand that no collecting would be attempted at all.

At Welcombe where we commenced, plenty of *Argynnis aglaia* L. were flying in the hot sun with early *Eumenis semele*